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 Journal of the Institute of Metals.
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 Journal of the Science of Food and Agriculture.
 Journal of Science of the Hiroshima University, Series A.
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 Journal of the Society of Dyers and Colourists.
 Journal of the Society of Glass Technology.
 Journal of the Society of Leather Trades' Chemists.
 Journal of the South African Chemical Institute.
 Journal of the Textile Institute, Proceedings and Abstracts.
 Journal of the Textile Institute, Transactions.

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 Klinische Wochenschrift.
 Kolloidzeitschrift.
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 Laboratory Practice.
 Lancet.
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 New Zealand Journal of Science and Technology, B.
 Norges Apotekerforenings Tidsskrift.
 Nucleonics.

JOURNALS

- Österreichische Chemiker-Zeitung.
 Olii Minerali, Grassi e Saponi, Colori e Vernici.
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 Paint Manufacture.
 Paintindia.
 Paliva.
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 Recueil des Travaux Chimiques des Pays-Bas et de la Belgique.
 Reports of the Government Chemical Industrial Research Institute, Tokyo.
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 Review of Scientific Instruments.
 Reviews of Pure and Applied Chemistry.
 Revista de Ciencia Aplicada.
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 Revue de l'Institut Français du Pétrole et Annales des Combustibles Liquides.
 Ricerca Scientifica.
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 Rubber World.
 Sanitalk.
 Schweizer Brauerei-Rundschau.
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 Science and Culture.
 Science Tools.
 Seifen - Öle - Fette - Wachse.
 Sewage and Industrial Wastes.
 Shirley Institute Memoirs.
 Siemens-Zeitschrift.
 Slovenian Academy of Sciences and Arts. "J. Stefan" Institute of Physics Reports.
 Soap and Sanitary Chemicals.
 South African Industrial Chemist.
 Spectrochimica Acta.
 Stärke.
 Studies in Conservation.
 Sucrierie Belge.
 Sucrierie Française.
 Sugar [New York].
 Svensk Kemisk Tidskrift.
 Svensk Papperstidning.
 T.A.P.P.I.
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JOURNALS

Transactions of the American Association of Cereal Chemists.
Transactions of the British Ceramic Society.
Transactions of the Faraday Society.
Transactions of the Indian Institute of Metals.

Ukrainskii Khimicheskii Zhurnal.
U.S. Atomic Energy Commission, Reports.

Verfkroniek.

Wallerstein Laboratories Communications.
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Zavodskaya Laboratoriya.
Zeitschrift für analytische Chemie.
Zeitschrift für angewandte Physik.
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British Baking Industries Research Association Abstracts.
British Cotton Industry Research Association. Summary of Current Literature.
British Food Manufacturing Industries Research Association Abstracts.
Chemical Abstracts.
Journal of the Institute of Metals.
Journal of the Institute of Petroleum.
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ERRATA

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Abstract No.	Line
2438	2 for J. R. Riddick read J. A. Riddick.

VOL. 2, 1955.

Abstract No.	Line
9	3 for W. West read P. W. West.
13	2 for Klinkersberg read Klinkenberg.
121	2 for V. Hagenström read U. Hagenström.
132	3 for Bohme read Böhme.
166	8 for up to read more than.
284	2 for A. H. Wilkins read D. H. Wilkins.
330	3 for Fitzgerald read FitzGerald.
532	2 for I read II . The formation of metal diethyldithiocarbamates and their extractability in relation to pH.
544	2 for Stöckle read Stöckli.
546	2 for II read VII .
574	2 for S. Holzbecher read Z. Holzbecher.
612	4 for L. Pungor read E. Pungor.
685	3 for Phillipp read Philipp.
728	3 for F. H. Bruns read F. Bruns.
840	2 for J. P. Lodge read J. P. Lodge, jun.
918	3 for Boule read Boyle.
923	2 for M. Šušić read M. V. Šušić.
973	4 for J. du Ruisseau read J.-P. du Ruisseau.
1011	11 Insert "(apparent to unknown)" after "potency ratio."
1018	4 for Rapaport read Rapoport.
1100	2 for N. H. Addink read N. W. H. Addink.
1113	3 for III-V . III . read VIII .
1113	17 for IV read IX .
1113	23 for V read X .
1134	12 for VI read IV .
1157	3 for R. H. Rush read R. M. Rush.
1161	3 for Murate read Murata.
1246	2 for J. Barceló read J. R. Barceló.
1357	2 The abbreviation of the journal should be <i>Meded. LandbHogesch. Gent</i> .
1540	3 for E. Fujita read Y. Fujita.
1593	2 for Mapston read Mapstone.
1816	15 for cyanate read hydroxycyanide.
1856	2 for Thompson read Thomson.
1927	2 for Roquette read Rouquette.
1991	2 for B. J. Grunbaum read B. W. Grunbaum.
2081	22 for 0-0001 read 0-001.
2255	2 for Schlögel read Schlögl.
2291	3 for J. J. D. Walton read J. H. D. Walton.
2314	3 for Newald read Neuwald.
2481	16 for non-graphic read non-graphitic.
2482	2 for Roberts read Robert.
2633	2 for G. Wyld read G. E. A. Wyld.
2697	3 for S. Shinozawa read R. Shinozawa.
2710	2 for Todt read Tödt.
2866	2 for Okiyama read Okinaka.
The abstract after 2925 is wrongly numbered and should be 2926.	
3050	4 for Leddicote read Leddicotte.
3189	2 for Mahler read Maher.
3237	5 for dimethyl read diethyl.
3237	6 for diethyl read dimethyl.
3459	3 for Volkavá read Volková.
3467	2 for N. Knowlden read N. F. Knowlden.
3497	2 for C. R. Franzke read C. Franzke.

These include some errata subsequently published in the journals abstracted.

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LIST OF PATENTS ABSTRACTED

BRITISH PATENTS

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709,826,	819.	716,057,	243.	725,586,	2013.	728,947,	2642.
711,584,	1409.	719,995,	1729.	725,736,	1974.	729,575,	2927.
711,672,	1400.	720,204,	1377.	725,748,	1978.	731,826,	3250.
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713,288,	244.	722,967,	1710.	727,683,	2294.	732,447,	3249.
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715,769,	229.	725,508,	1996.	728,383,	2179.	733,602,	3248.
716,015,	252.						

UNITED STATES PATENT

Patent No.	Abstr. No.
2,697,651,	3022.

ABBREVIATIONS

Certain abbreviations in everyday use are not included in the following list. When any doubt might arise from the use in the text of an abbreviation or symbol the word is printed in full.

alternating current	a.c.	milli-curie	mC
ampere	amp.	milligram	mg
Angstrom unit	Å	millilitre	ml
anhydrous	anhyd.	millimetre	mm
approximate, -ly	approx.	millimicron	mμ
aqueous	aq.	millivolt	mV
atmosphere -e, -ic	atm.	minimum	min.
boiling-point	b.p.	minute (time)	min.
British thermal unit	B.Th.U.	molar (concentration)	M
calorie (large)	kg-cal.	molecule -e, -ar	mol.
calorie (small)	g-cal.	normal (concentration)	N
centimetre	cm	number	no.
coefficient	coeff.	observed	(obs.)
concentrated	conc.	ounce	oz
concentration	concn.	part	pt.
critical	crit.	patent	pat.
crystalline	} cryst.	parts per million	p.p.m.
crystallised		per cent. wt. in wt.	per cent. w/w
cubic	cu.	per cent. wt. in vol.	per cent. w/v
current density	c.d.	per cent. vol. in vol.	per cent. v/v
cycles per second	c.p.s.	potential difference	p.d.
decompos-ing, -ition	(decomp.)	pound	lb
density	ρ	precipitate	ppt.
density, relative	d or wt. per ml	precipitated	pptd.
derivative	deriv.	precipitating	pptg.
dilute	dil.	precipitation	pptn.
direct current	d.c.	preparation	prep.
distilled	dist.	qualitative, -ly	qual.
electromotive force	e.m.f.	quantitative, -ly	quant.
electron-volt	eV	recrystallised	recryst.
equivalent	equiv.	refractive index	n _D
experiment	expt.	relative humidity	R.H.
foot, feet	ft.	revolutions per minute	r.p.m.
gram	g	saponification value	sap. val.
gram-molecule	mole	saturated calomel electrode	S.C.E.
half-wave potential	E _{1/2}	second (time)	sec.
horse-power	h.p.	soluble	sol.
hour	hr.	solution	soln.
hydrogen ion concentration	[H ⁺]	specific gravity	sp. gr.
hydrogen ion exponent	pH	specific rotation	[α] _D
inch	in.	square centimetre	sq. cm.
infra-red	i.r.	standard temperature and pressure	s.t.p.
insoluble	insol.	temperature	temp.
kilogram	kg	ultra-violet	u.v.
kilovolt	kV	vapour density	v.d.
kilowatt	kW	vapour pressure	v.p.
maxim-um, -a	max.	volt	V
melting-point	m.p.	volume	vol.
micro-curie	μC	watt	W
microgram	μg	wavelength	λ
micro-litre	μl	weight	wt.
micron	μ		
milliampere	mA		

In addition the following symbols are used—

greater than	>	less than	<
not greater than	≧	not less than	≦
is proportional to	∝	of the order of, approximately	~

The principal Pharmacopoeias are denoted by B.P., U.S.P., or D.A.B., together with the identifying numeral.

Radicals are represented by the usual symbols; positive ions have superscript dots and negative ions superscript dashes, e.g., Cu⁺⁺, Al⁺⁺⁺, Cl⁻, SO₄⁼⁻. Metals that exist in more than one valency state are represented by their symbols with appropriate superscript roman numerals, e.g., ferric iron becomes Fe^{III} and cuprous copper Cu^I.



